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DESCRIPTORS- *RESEARCH UTILIZATION, SEMINARS, FEDERAL PROGRAMS, *RESEARCH PROJECTS, INTERAGENCY COOPERATION, *DEMONSTRATION PROJECTS, *EXPERIMENTAL PROGRAMS, *INTERAGENCY PLANNING, INFORMATION DISSEMINATION, GUIDELINES,

THE DEPARTMENT OF LABOR HELD A 2-DAY SEMINAR IN NOVEMBER 1966 IN WASHINGTON, D.C. TO POOL EXPERIENCE, KNOWLEDGE, AND IDEAS FOR THE DEVELOPMENT OF EFFECTIVE STRATEGIES FOR THE UTILIZATION OF RESEARCH FINDINGS. THE PARTICIPANTS REPRESENTED THE OFFICE OF MANPOWER POLICY, EVALUATION, AND RESEARCH (OMPER), OTHER COMPONENTS OF THE MANPOWER ADMINISTRATION, OTHER FEDERAL AGENCIES WHICH ENGAGE IN ACTIVITIES SIMILAR TO OMPER'S EXPERIMENTAL AND DEMONSTRATION PROGRAM, AND SOME NONGOVERNMENTAL PERSONS INVOLVED IN RESEARCH AND DEVELOPMENT PROJECTS. THE ACTIVITIES OF THE SEMINAR INCLUDED THE PRESENTATION OF PAPERS BY MEMBERS OF THE SEMINAR PLANNING COMMITTEE TO DESCRIBE THE CURRENT UTILIZATION ACTIVITIES OF THE DIFFERENT AGENCIES, THE OBSTACLES TO UTILIZATION, AND THE PROGRAM TO PROMOTE UTILIZATION WHICH THEY WOULD INSTITUTE IF GIVEN FULL AUTHORITY TO DO SO. TWO CASE STUDIES, ONE OF A PROJECT WHICH HAD SUCCESSFUL UTILIZATION AND ONE WHICH HAD IMPORTANT FINDINGS BUT RELATIVELY UNSUCCESSFUL UTILIZATION WERE PRESENTED. SEMINAR SUGGESTIONS FOR IMPROVED RESEARCH UTILIZATION INCLUDE--(1) STIMULATING GOOD PROPOSAL IDEAS, (2) IMPROVING THE GRANT OR CONTRACT NEGOTIATION PROCEDURE TO ACHIEVE MORE EFFECTIVE UTILIZATION, (3) IMPROVING THE INTERACTION BETWEEN FUNDER AND GRANTEE OR CONTRACTOR, (4) CLARIFYING THE KINDS OF ACTION WHICH MIGHT RESULT FROM EXPERIMENTAL AND DEMONSTRATION PROJECT FINDINGS, (5) TRANSLATING FINDINGS INTO ACTION, (6) TRAINING WASHINGTON EXPERIMENTAL, DEMONSTRATION, AND RESEARCH PROGRAM STAFFS, AND (7) DEVELOPING BETTER INTERAGENCY COORDINATION IN INVESTIGATING PROBLEM AREAS. A SELECTED LITERATURE REVIEW, A BIBLIOGRAPHY, A POSITION PAPER OF THE BUREAU OF RESEARCH, CURRENT ACTIVITIES OF SOME FEDERAL AGENCIES IN DISSEMINATION AND UTILIZATION, AND MODELS OF THE CHANGE PROCESS IN RELATION TO IMPLEMENTATION ARE INCLUDED. (HC)

U. S. DEPARTMENT OF LABOR · MANPOWER ADMINISTRATION

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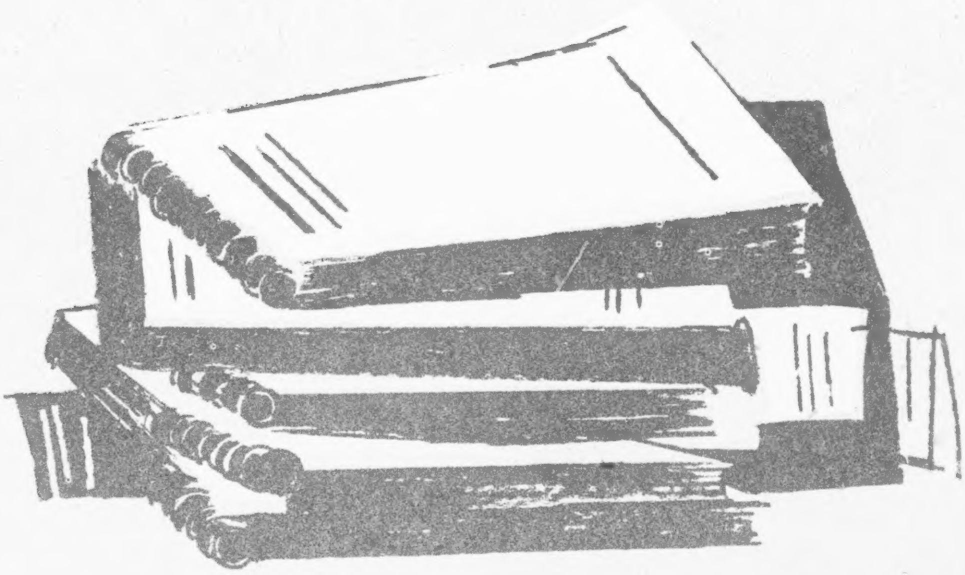

PUTTING RESEARCH, EXPERIMENTAL AND DEMONSTRATION FINDINGS TO USE

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OFFICE OF EDUCATION

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PUTTING RESEARCH, EXPERIMENTAL AND DEMONSTRATION FINDINGS TO USE

U.S. DEPARTMENT OF LABOR • W. WILLARD WIRTZ, SECRETARY
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PREFACE

This report of a multiagency seminar held November 28-29, 1966, in Washington, D.C. on a special manpower project was prepared by the Human Interaction Research Institute under a contract with the U.S. Department of Labor, under the authority of the Manpower Development and Training Act. Organizations undertaking such projects under Government sponsorship are encouraged to express their own judgment freely. Therefore, points of view or opinions stated in this document do not necessarily represent the official position or policy of the Department of Labor.

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ABSTRACT AND SUMMARY

Every year the Federal government spends millions of dollars to finance experimental, demonstration, and research projects in one or another of the social sciences. Many of them produce valid and valuable findings on how to improve practices, techniques, services, and standards.

There is, however, a considerable gap between the best available knowledge in almost any given field and everyday practice. The quality of life in our society can be upgraded if that knowledge can be more widely disseminated, given greater impact, and more extensively applied. This seems particularly true with reference to knowledge in the areas of human resource development and utilization, design of human environments, and health-related knowledge.

Following are some suggested ways of facilitating knowledge utilization which grew out of the seminar on PUTTING EXPERIMENTAL, RESEARCH AND DEMONSTRATION FINDINGS TO USE. The participants were aware that not all suggestions are relevant to each type of demonstration activity, that the degree of application and the emphases selected are closely linked to availability of resources and to the particular program's key objectives, that many of the things suggested already are being done to some degree by some agencies, and that not all have been tested for efficacy.

1. Stimulate good research proposals by (a) streamlining grant and contract procedures, including providing a small planning stipend after approval of an informal proposal, and by (b) inviting and reaching out for submission of proposals in a given field to assure desired complementary studies and needed coverage of given subjects, not just waiting for proposals to be submitted.

2. Prepare and distribute to potential users comprehensive but succinct periodic reviews of the state of the art/knowledge in given fields. In these reviews, point up gaps which might be filled by Research and Development (R & D) or Experimental and Demonstration (E & D) projects.

3. Ask and try to answer continuously, from inception to completion of a project, the questions of its aims and ultimate use of results. Whom is the demonstration intended to influence? What are the obstacles to the good use of results, and how can these obstacles be overcome? What criteria should be used to evaluate the results? When these questions have been tentatively answered, either before the project begins or at the start, bring in representatives of the identified program group who might be expected to utilize the findings (in addition to requiring that each proposal include recommendations by the sponsor on how to implement the findings of his project). The representatives will meet with the project staff and funding agency program officer, for consultative reactions to the tentative answers. These persons may well be helpful with practical advice not only regarding possible improvement of the project, but also regarding appropriate ways of interesting potential users or colleagues in their own field.

4. Provide for continuous interaction between grantor or contractor and grantee, from the beginning of the project through the period of dissemination and efforts to apply results. This may imply more technical training for Washington agency staff; more staff devoted to keeping in contact with projects and stimulating use of results; better interagency coordination; development of a clearinghouse and data retrieval system similar to that now in use by the Office of Education.

5. Provide in the project methodology a built-in component on reporting procedures and statistical data which would permit subsequent evaluation and utilization.

6. Summarize findings in separate, brief, nontechnical, and very readable reports, in addition to the full technical reports. Get criticisms of at least the summary reports from key representatives of potential users before they are put in final form. Then disseminate them widely to members of the various groups of potential consumers.

7. Conduct seminars in conjunction with site-visits, where potential users can discuss the innovation, perhaps see it and "feel" it as something alive, and consider its applicability to other situations. The participants could have small group discussions of

ways to adopt and perhaps to improve the innovation. Encourage each participant to tell about innovations in his own facility. Thus, each participant can become a giver as well as a receiver of information.

8. Reduce wasteful proliferation and fragmentation of research, demonstrations, services and research utilization efforts by developing better interagency exchanges to discuss policies and problems as well as projects already underway or needed to help fill gaps in knowledge. Agencies also could work out common as well as unique strategies for utilization of promising findings. The more complex our society becomes and the more specialized the focus of different groups, disciplines and agencies, the greater the need for system integration to relate the parts to the whole.

9. Replicate important demonstrations as a means of accumulating more experience and, through reaffirmation, giving them more impact.

10. Identify and recruit key practitioners in various localities to apply the innovation to their own settings. Their example might be expected to foster adoption among others with whom they are influential. To facilitate application of the innovation, provide human links or change agents who are thoroughly familiar with it to serve as consultants to the institution which is interested in exploring, adopting or adapting the innovation. Use the project staff, where appropriate, for this change agent and consultant function.

11. Invite attention to the potential rewards of adopting the innovation -- for example, winning approval from key persons or sources, gaining prestige, reducing costs, improving services -- so that the potential user can identify them with his self-interest.

12. Obtain policy commitment from funding agencies to the idea that dissemination and utilization functions are an integral part of their research program. Implement this commitment by providing each research-support operating division with a dissemination and utilization staff of its own, in addition to an overall Bureau or Office capability. This operating division staff would work with agency program officers and sometimes with the demonstration project staffs to see that their procedures contain evaluation, dissemination, and implementation components. Unless steps are taken to promote implementation after research and development, and unless someone is responsible for seeing that such steps are taken, considerable lag can be expected.

13. Evaluate the financial considerations involved in putting project findings to use; e.g., the extent to which the project might supplement or support existing, ongoing practices or services; the cost-benefits involved; the distinctions between the costs of adopting the critical or essential elements of a project and adding those which are marginally valuable.

I. BACKGROUND AND PROCEEDINGS OF THE SEMINAR

Introduction

Federal investment in experimental, demonstration and research projects is substantial. There has been a growing concern recently...on the part of the President, Congressional Committees, fund granting agencies and many researchers themselves...about how such projects -- when validity has been demonstrated -- can more effectively result in widespread improvement of everyday practices.

The evidence (2, 6, 8, 10, 11)* suggests that experimental and demonstration (E & D) and research and development (R & D)** projects, with some exceptions, have fallen well short of their potential impact for bringing about improved techniques, services, products or standards of regular programs. This has been true even though many of the reported findings seem promising and impressive. They often have appeared worthy of either spread (duplication or adaptation of the model elsewhere as needed), continuity (maintenance or expansion of the project), spin-off (acceptance by an on-going agency other than the original funder for carrying on the innovative activity) or spillover (catalytic stimulation to show that something must and can be done about a given problem, or to stimulate secondary application of the findings in other types of situations).*

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* Numbers in parentheses refer to items listed in the bibliography, page 50.

** R & D also can mean research and demonstration, rather than development, when a demonstration component follows a research or fact-finding stage.

The gap between promising findings and their application points up the pressing need for the development of effective strategies for such utilization. To that end, the Department of Labor invited its own and other federal agencies which support R & D and E & D projects to pool their experience, knowledge and ideas in a two-day seminar, November 28-29, 1966, Washington, D.C.

Origin of the Seminar

The seminar grew out of the interest of Dr. Curtis C. Aller, Director of the Office of Manpower Policy, Evaluation and Research (OMPER), in the Human Interaction Research Institute (HIRI) study of the "Utilization of Applicable Research and Demonstration Results" (6). This project was undertaken for the Vocational Rehabilitation Administration (VRA).

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*In its January/February, 1966, issue, Trans-action published an article by Martin Rein and S. M. Miller on the political and economic strategies of demonstrating and promoting new ideas. Three of the above labels, spread, continuity and spillover, are borrowed from Rein and Miller. "A demonstration project," they observed, "is a small program, funded for a definite period of time (its counterpart in industry is usually called a 'pilot project'). It has specific objectives and approaches which are subjected to critical scrutiny; it serves a select area and population with the fervent hope that the lessons it learns and 'demonstrates'...will somehow lead to large-scale adoption and major shifts in the aims, styles...and effectiveness of...social service organizations and programs... It is seldom made entirely clear how this transfer will actually come about. This is probably its chief failing..."

Dr. Aller has placed a high priority on utilization of the findings of OMPER's E & D projects, and indeed of its "basic" research program, and was much interested in drawing on HIRI's insight into this type of activity.

Consultation between Dr. Edward Glaser and Judah Drob, Chief of OMPER's Division of Program Utilization in the Office of Special Manpower Programs, led to the development of a proposal in which were blended the ideas of Glaser, Drob, and Seymour Brandwein, Acting Director of the Office of Special Manpower Programs which is responsible for the E & D program.

Participants in the seminar represented OMPER, some of its E & D project staff, other components of the Manpower Administration, other Federal agencies which engage in activities similar to OMPER's E & D program, and some nongovernmental persons involved in R & D projects.

The seminar evolved in two parts: a planning committee conference, held on October 30 and November 1, 1966, and the seminar itself on November 28-29, 1966.

About 15 persons participated in the planning committee conference, outlined their concerns and interests, agreed on a format, and undertook some "homework" assignments in preparation for the November 28-29 seminar.

Program of the Seminar

At the seminar Dr Glaser presented an opening summary of the available studies pertaining to research dissemination and utilization. This was followed by discussion of a compilation of the "homework" papers which the members of the planning committee had submitted in advance. These described the current utilization activity of the different agencies, the obstacles to utilization, and the program to promote utilization which they would institute if given full authority to do so.

The afternoon of November 28 was devoted to presentation of two case studies. One was the story of a relatively successful utilization effort, "The Military Volunteer Rejectee Project of the National Committee on Children and Youth," (NCCY) funded by OMPER. The other was an account of the Greenleigh Associates study of the effectiveness of four different systems for teaching adult basic education as used by three different kinds of teachers, funded by the Office of Economic Opportunity. The latter seemed important in terms of findings, but has been relatively unsuccessful in terms of spread or utilization. Presenting the NCCY case study were Mrs. Rita S. Valeo, Project Director; Mr. William Nichols, USES Project Officer; and Mr. Richard McAllister, OMPER Project Officer. Reporting on the Greenleigh Associates case study were Dr. Hazel McCalley and Mr. Jerry Bernstein of OEO.

The Military Volunteer Rejectee project had demonstrated that when young men are brought into contact with a helping agency at the exact time they are rejected by the Armed Forces they can be made especially well-motivated to undertake the steps necessary to help them overcome the shortcomings (usually educational) that led to their rejection.

The project had run for two years and had proved its point. OMPER was unwilling to fund it any further since it seemed to have exhausted its demonstration potential. However, there was toward the end of the second year considerable high level interest in the Manpower Administration for having the U.S. Employment Service assume this activity in several cities as a test on a broader scale in an ongoing agency. After some negotiation, OMPER agreed to fund the project for an additional year, during which the project staff would train Employment Service staffs in several cities to establish similar operations and would provide technical assistance in setting them up. In order to facilitate this, the Employment Service became the prime contractor for the project and the NCCY project staff became the sub-contractor.

In accordance with the utilization plan, staffs for seven cities were trained by the NCCY staff. At the time of the seminar this training was still going forward.

The Greenleigh Associates case study involved a project contracted by OEO to compare the effectiveness of four different systems of teaching basic adult literacy using three different kinds of teachers. The study used teaching systems that did not require certificated teachers and set up rigidly controlled situations for comparison. The teachers were either certificated teachers, uncertificated college graduates, or high school graduates.

The study found no significant difference in learning gain among the four systems used to teach adults who started with very low educational attainment. In one of the two tests for learning gain it found that the high school graduates appeared to be more effective than the certificated teacher and the uncertificated college graduates.

Although this seemed a significant finding, worthy of further investigation, OEO reported it could detect no discernible influence of the study at the time of the seminar.

(However, one of the benefits already derived from holding this seminar and presenting this case study is that the Director of Adult Education of the Office of Education has held an interagency meeting to plan a conference to (1) present, discuss, and analyze curricula, teaching systems, and techniques for efficient adult learning; (2) determine the availability of teaching materials on the market; (3) locate the areas which need further exploration and research. Out of this conference, it is hoped, will emerge advice and guidance to people or groups working in the basic adult education field.)

At the end of the first day, the participants listed the subjects they most wanted to discuss on the second day. That evening Edward Glaser, Gilbert Wrenn and Judah Drob met to collate the lists which had been submitted and divide the participants into small groups to discuss the seven topic areas which reflected their particular interests. These topic areas constitute the seven headings in Chapter II of this report.

The second day of the seminar was devoted to the small group sessions and a report of the conclusions and recommendations from each group.

Writing This Report

Following the seminar, a draft of this report was submitted to all participants, inviting their careful editing and, in effect, their coauthorship. Twenty-two persons responded, and their post-seminar comments are incorporated into this final report.

"Spread and Spillover"

The idea of the conference had been heartily approved by the agencies which were invited to participate. They had indicated they were concerned, as was OMPER, with putting into practice the useful things that had been learned in their own experimentation and demonstration activities. They had further indicated they were delighted to have a chance to exchange ideas and engage in systematic thinking on the subject. However, when they actually got together at the seminar, they discovered there was an even better reason for conferring; namely, that their work overlapped sufficiently to make exchanges of information and joint utilization efforts necessary to their own effectiveness.

In consequence, the relationships established at this seminar are likely to build toward a considerably improved return to the Federal government on the funds invested in experimental and demonstration activities.

II. SUGGESTIONS FROM THE SEMINAR FOR IMPROVED RESEARCH UTILIZATION

Two Contrasting Approaches

Problems in search of a solution: E & D or R & D grants are usually a response to proposals initiated outside the funding agency. Even if the agency indicates a special interest in certain areas, such as mental retardation, or heart, stroke or cancer research, the precise subject matter or focus of the proposals is a function of the interests and ideas of those persons who choose to submit them.

Whether research proposals are unsolicited or solicited, the common starting point is the motivation of an individual or group to satisfy some want or desire or meet some problem. The next step is the conception of an idea, emerging in a total social context, for obtaining the anticipated end-results. Thus, both solicited and unsolicited proposals illustrate problems in search of a solution.

Solutions in search of appropriate problems: A reverse starting point for E & D or R & D projects, illustrated by the National Aeronautics and Space Administration (NASA), might be termed "solutions in search of appropriate problems." This agency has created a Technology Utilization Program which has four principal objectives:

1. To insure that the applicable technology of aerospace R & D is used outside the space program.
2. To shorten the time lag between the discovery of that knowledge and its effective application in a commercial marketplace.

3. To move new knowledge into new disciplines, new regions, new industries and new markets.
4. To learn some general principles of the transfer of technology in the process of meeting the above three goals.

To carry out its mission, NASA has developed a sophisticated storage and retrieval system for its technical information documentation.

One segment of NASA's utilization program concerns the application of aerospace technology to medicine. Members of biomedical teams -- composed of biological and physical scientists at research centers under contract to NASA -- have a personal knowledge of NASA research activities and the capability of searching the NASA information bank through computer programs. Each team first singles out a medically oriented institution which is the target potential user of biomedical application and establishes a broadly-trained and knowledgeable consultant therein. The consultant identifies those medical research persons or teams within the given institution who are investigating problems which could find solutions in space technology. Since information about NASA innovations, inventions, improvements and discoveries that may have applicability to some other sector of the economy is organized in meaningful form, the consultant can help the research team match the NASA information to appropriately stated biomedical problems. The information then can be evaluated with regard to its relevance to the biomedical problem.

Similar teams at NASA-sponsored regional dissemination centers are geared to industrial users of new technology.

Thus, the NASA effort to encourage application of its research and development emphasizes a system for abstracting, indexing, storing and retrieving its information. It stresses the value of person-to-person communication by providing a human link between the innovators and the potential users, as contrasted with merely distributing a thick document. It rests on the concept that information for solving the problems of one field can come not only from likely sources but from less obvious sources as well; hence the application of aerospace technology to medical and industrial problems. It tries to provide for a clear communication channel, cross-communication, and a multi-disciplinary atmosphere. Finally, when there has been utilization of aerospace technology, the whole chain of events leading to the transfer is documented.

The suggestions from this seminar for facilitating appropriate application of E & D and R & D findings can be applied either to problems in search of a solution, or solutions in search of appropriate problems. In the former case the sequence appears somewhat as follows:

Proposal to results	(1) Motivation in the form of some want or problem to be solved; ⟶ (2) Conception and development of an idea to satisfy the want or meet the problem, preferably with practicable levels of resources; ⟶ (3) Critical review, tryout and evaluation, leading to either
identification of applicable findings	extinction or strategies for dissemination to different kinds of identified potential adopters in ways likely to induce receptivity as well as awareness; ⟶ (4) Mod-
utilization	ification, refinement and study of what may be needed to transfer demonstration from a nurtured environment to non-nurtured environments, thereby leading to continuity,

spread, spin-off, spillover...or extinction; ⟶
(5) Further assessment and continued search for improvement or adaptation to changing circumstances.

When solutions seek problems, the steps of the sequence appear more like the following:

(1) Identification of a superior innovation, invention, improvement or solution to a problem, with seeming potential for wider application or at least broader tryout; ⟶ (2) Identification of the market or potential users of the innovation; ⟶ (3) Change-agent linkage between the innovator system and the client or potential user system to facilitate critical review, tryout and evaluation in ways likely to induce receptivity as well as awareness; ⟶ (4) (Same as in former sequence); ⟶ (5) (Same as in former sequence).

We shall turn now to a report and analysis of the ideas for utilization generated by the seminar. The following seven headings encompass the areas that the conferees felt were most profitable to discuss.

1. Stimulating Good Proposal Ideas

Solicit an early, informal letter:

Funding agencies might reduce needless cost, red tape and frustration in proposal drafting by inviting, as a first step, an informal, fairly brief letter stating the idea of the proposal: its purposes, its significance and an outline of the proposed methodology. This would be sufficient basis for the funding agency to consider the proposal in relation to its own program. At the same time it would enable the proposer to find out whether his idea can be encouraged and on what terms, without a large investment of time and money. And it would increase the range of contact for the funding agency, since more people would contribute the informal first inquiries.

Subsidize detailed proposals:

Those proposers whose idea and methodology seem sound, and suitable to the overall program needs and objectives of the funding agency, should be offered a small subsidy for preparation of a detailed proposal. The subsidy would be paid upon submission of a detailed proposal, including a relevant literature summary, but there would be no commitment to fund the proposal beyond the planning grant.

This would equalize opportunities for those who have the time and money required for drafting a comprehensive proposal, and those without such resources. It would encourage more people to think about needed R & D or E & D projects, and thus expand the manpower resources available for such thinking. In the process, literature summaries on various subjects and developed ideas for an "idea" bank would be provided to the funding agency. Some mechanism could be provided to properly credit the authors of original ideas. These contributions would have value in their own right and would repay the planning grant costs. It would permit grantor and grantee to interact meaningfully at the inception of the proposal rather than only after acceptance.

Prepare subject matter reviews of the state of the art:

Another possible way of stimulating needed research might be for a funding agency to develop a scholarly and comprehensive but readable and succinct review of the state of knowledge and art in some subject-matter fields of that agency's program interests, and then invite research, experimental and demonstration proposals to fill important gaps. Such an approach could serve at least four functions simultaneously:

(1) It could provide a convenient set of desk-top monographs in which current knowledge on given subjects is meaningfully presented, so that agency staffs can more easily keep abreast of recent developments. These monographs could be revised periodically for (and with consulting help from) practitioners who do not have the resources, time or capability to do such a distillation for themselves.

(2) It could help the practitioners apply that knowledge.

(3) It could help the funding agency clarify what it wants in relation to its own program policy and responsibilities.

(4) It might point up some important gaps in present knowledge.

Such monographs might be prepared by the agency's own staff with outside consulting help as required, by a multi-agency information Analysis Center, or by contract with outside experts in given subject-matter fields. Still another way would be to include such a review, as suggested above, as part of a project proposed under a grant.

An agency practice of inviting proposals in certain defined areas is not intended to discourage the submission of pertinent original proposals; it can be both/and rather than either/or.

2. Improving the Grant or Contract Negotiation Procedure to Achieve More Effective Utilization

Make explicit plans for utilization:

One method for stimulating proposers of projects to proceed in ways that will improve the odds for utilization is to require that the formal proposal (for which a planning stipend is to be paid) include explicit statements regarding:

(a) What are the substantive aims of the project, and if they are achieved, what is the desired impact -- spread, spin-off, continuity or spillover or several of these?

(b) Whom is the E & D or R & D project supposed to influence -- who are the target audiences or "consumers" if the findings are significant, positively or negatively? What relationship to these consumers is proposed during development and operation?

(c) What criteria will be used and what records and statistical data will be provided to evaluate the outcome of the demonstration? What utilization information will be obtained from evaluation, and how will it be used?

(d) What are the resources and planned strategies for achieving these aims and communicating the findings to different kinds of potential users? (Some funding agencies may prefer to take responsibility for this step, and not require the grantee to think it through in the proposal).

This would permit early interaction between the proposer and the funding agency to think through the questions about potential users, dissemination of findings to them, strategies to stimulate utilization, criteria for evaluation...and budget to carry through these plans. (As the findings become clear, budget considerations often make it useful to distinguish between (1) new knowledge that an agency can apply now if it had the money, or that which would replace a present procedure and not cost much money and (2) an innovation which supplements existing services and would cost appreciable money.)

Clarify criteria for accepting or rejecting proposals:

Another suggestion (this one is only tangentially relevant to facilitating utilization) in connection with negotiating the grant or contract is that Federal funding agencies be required to make more explicit the bases upon which they decide whether or not to fund a proposal. Illustrations of good design, beyond general guidelines, might be made available upon request, and these illustrations should include the spelling out of the relevance of the project for potential users or beneficiaries. It would need to be made clear, however, that such illustrations are not models. Originality in design is to be encouraged. When the decision is "not fund," the reason for that decision very well might be communicated to the applicant, sometimes with suggestions regarding other agencies that are apt to be interested.

This might tend to reduce subjectivity and arbitrariness -- although it also might tend to increase the amount of time and effort spent in justifying rejections. It would encourage a systematic interchange of communication among agency staff, advisory panels, the applicant, and other interested agencies.

Identify function of advisory panel:

A third suggestion (also tangential to utilization) pertaining to negotiation of the grant or contract is to make it explicitly clear to all concerned that advisory panels and review committees have only a consultative role and not a decision-making one. This would couple authority and accountability with responsibility, where it belongs. As currently used, many advisory panels in effect have ultimate authority for accepting or rejecting proposals, but no concomitant responsibility for agency programs, thrust or effectiveness.

It is the agency which has the responsibility for putting together a fabric of overall knowledge and know-how in given fields; thus, it should make its own decisions (if it can learn to avoid political pressures without passing its authority to an advisory committee) about the projects it wishes to support from its limited funds. The agency is publicly accountable for its decisions, including any that overrule the consultative recommendations of an advisory panel.

Review or advisory panels may need orientation seminars about judging the utilization potential of each application, and should be encouraged more often to base their judgments on considerations of relevance to the funding agency's programs. This is another reason why the funding agency should require that the grant application state the plan for analyzing results and making them available to others. The new (4/66) NIMH grant application form requires at least part of such a statement under the heading EVALUATION OF RESULTS.

Explore alternative designs:

A fourth suggestion is that in R & D projects which are intended to include an action or demonstration component following a fact-finding or research phase, the two phases be linked in a single design package. Other members of the group, however, felt that this idea needs tempering because a "single design package" may lead to a rigid pursuit of a will-o-the-wisp. Phasing and openness to redesign based upon learning from the experience gained in earlier phases sometimes is more productive and less expensive than commitment to a preconceived and totally structured plan. Another useful technique is to support alternative and even competing design studies, or pilot approaches to a complex problem; i.e., studies to develop alternative specifications for E & D activities, followed by either (a) support of the most promising single demonstration, or (b) support of dove-tailed demonstrations in different contexts.

A fifth suggestion is that funding agencies might constructively work with university research people and research institutes on the problem of designing projects which would lend themselves more effectively to ultimate utilization of applicable findings.

3. Improving the Interaction between Funder and Grantee or Contractor

As Rein and Miller (9) point out, the funders must be concerned with getting and maintaining quality. This will require adequately frequent, competent and friendly monitoring (not meddling, however). One seminar participant suggested that in some cases a public review board of experts chosen for their reputed knowledge, perspective and integrity can help to assure accountability. But as in the case of advisory panels in relation to proposals, a public review board should have only a consultative role. Accountability, responsibility and authority are Siamese triplets, not readily separable.

Specifications for grantor-grantee relationships:

Adequate program office staffing is needed to permit a close relationship which, in turn, directly or indirectly, would increase the odds for payoff from the expenditures for R & D and E & D. The following are possible specifications for the kind of close relationship envisioned:

> A site-visit by a program officer from the funding or contracting agency to be made early in the life of the project for a pre-operational discussion. The funding agency and grantee or contractor should get to know one another as persons, not merely as names and as originators of correspondence. The visit should be not only with the project staff but possibly with the grantee or contracting agency's clients and other community agencies, in which case prior clearances may be needed. At least one more site visit should be made before the final report is written, and visits

every few months are to be encouraged. If progress reports and telephone communications reveal problems, visits from the grantor program office should be more frequent.

- If the grantee or contractor is new to E & D or R & D operations, someone from the fiscal management section of the funding agency should visit the grantee or at least be available for telephone discussion of any questions before the project begins, and orient the incipient project group to the fiscal and reporting requirements of the Federal government.
- Each agency should have a fiscal expeditor to help upgrade the efficiency of funding arrangements.
- Action project people should be encouraged by the funding agency's program office to introduce innovative procedures, with a climate of reasonable freedom to fail.
- Technical assistance should be available at any time to the grantee or contractor upon request.
- As Rein and Miller point out, the funders ought to be prepared to stay with the projects they have decided to support, and help rather than quit when the going gets rough. "The demonstration cannot last or be effective if it is constantly swept with rumors that the funds will stop, and the backers quit backing."
- Funding agencies might well supplement demonstration grant programs by providing for (a) special publications; (b) visitation programs which would include the coverage of expenses of potential users to observe the demonstration in action as well as expenses and remuneration to the investigator or special consultants; (c) conferences or workshops for potential users, preferably in conjunction with site-visit observations as already has been suggested above. Sometimes these provisions can be built into the proposal. In other cases it may be necessary to wait until the results of the demonstration are clear enough to judge whether such arrangements are warranted.

The reporting function:

Methods of reporting and accountability should be spelled out and clarified by published models. On projects of short duration, such as 18 months, quarterly progress reports should be sufficient. On longer projects reports should be required less frequently. Usually reports should tell of progress toward the stated aims or objectives of the project (including utilization); of problems encountered; and the implications, plans, and other dynamic elements. Unusual developments should be reported in special reports.

In some cases, funding agencies have not received final project reports from grantees, or have not received satisfactory final reports. In such cases there is little or nothing to disseminate and implement, even if the findings were worthwhile. It would appear that these are instances where permissiveness has been carried too far. If the last payment was made only after all obligations were fulfilled, as is usually done with a materials contract, the report would be written.

Reports should be read and evaluated promptly by the funding agency to see if project objectives are being met and to aid interaction with the grantee on future plans.

Final reports should have a generally standard, but not inflexible, format; i.e., they usually should include sections such as (1) a foreword containing independent commentaries on the report by one or two leading authorities in the subject-matter field; (2) an easy-to-read, jargon-free abstract and summary for the nontechnical reader; (3) the background and aims of the project, with a review of previous relevant work on the problem; (4) the method of procedure; (5) the findings or accomplishments with reference to the aims; (6) discussion, implications and recommendations, including emphasis on what was learned.

Good format alone cannot assure quality, which is a key to utilization, but format can contribute to coherence.

In general, the primary purposes of a final report are (1) to document in readable and easily grasped form the project outcomes and how the outcomes were achieved, (2) to disseminate new knowledge or new applications of old knowledge which can become a basis for promoting utilization, and (3) to identify the next logical step for the development of additional knowledge pertinent to the problem of the initial study.

Other methods of strengthening interaction:

One grantee can and in many cases should be asked to serve as a consultant to another grantee. This is an arrangement which can be facilitated by the funding agency.

Successful demonstrations can be used as training prototypes for certain new projects which are designed to replicate at least certain features of the original successful demonstration.

There was a tentative suggestion that project administrative detail should be assigned, as fiscal detail is, to another section of the grantor agency rather than the project office, leaving the project office free to focus only on the professional and technically substantive aspects of the grantor-grantee relationship. In our (HIRI's) judgment, however, there are dangers of over-segmentation in this approach; the need for system integration argues against such highly specialized division of labor.

With the suggested kinds of interaction between grantor and grantee, the grantor agency should be in a better position to link experimental, demonstration and research project findings with its policy and current anticipated programs.

4. Clarifying the Kinds of Action Which Might Result from E & D Project Findings

Social service agencies will seldom institute major internal changes -- even when feasibility is demonstrated -- without outside prodding from government agencies, foundations or other fund-givers, or policymakers. As one example, Rein and Miller describe a project in a high crime neighborhood where three social workers on special assignment set out to reach three juvenile gangs considered unreachable by the traditional settlement houses and the police. They used certain presumably replicable methods, and were successful, as special assignment workers have been in other cities. But the program was dropped when completed. It was never implemented as an ongoing program after the small demonstration ended, and most of the recommendations were not followed.

In one sense, this project was a success; it demonstrated a way in which certain types of juvenile gangs could be reached, with a resultant helpful effect on crime prevention and control, and perhaps even the start of a rehabilitation relationship with the gang members. In a more fundamental sense, however, the project was a failure, for the ultimate test of the success of a demonstration, as Rein and Miller point out, "is whether it can actually influence long-term and large-scale policy. It is not enough to have proven that an idea will work if that idea then dies and is interred in a report."

Action objectives:

What kinds of policy change or action or improvements in operational practice might be the legitimate objectives of an E & D project such as the one described above?

Spread or adaptive tryout of a project technique such as the one cited above, by other workers with other juvenile gangs in other cities would be one hoped-for result of such a demonstration.

Continuity or continuation of the original project on a more permanent basis, and perhaps on an expanded scale, may be another hoped-for outcome of a demonstration.

Spin-off or acceptance by an on-going agency other than the original funder for carrying on the innovative activity, once it has been demonstrated to be successful, may be another legitimate objective.

Spillover is another kind of purpose which either research findings or a demonstration may have. It can be of two kinds: (1) to attract attention to a problem, with the demonstration serving mainly as a catalyst to get persons confronted with that problem to experiment with constructive action, whether similar to or different from the action tried in the demonstration project; (2) to encourage secondary application of the research or demonstration findings -- for example, the application of NASA's aerospace research to biomedical problems and to rehabilitation problems.

"Production engineering" of a demonstration technique to translate it from the nurtured environment of a small scale pilot project conducted with special personnel to the conditions of everyday operation and on a larger scale by less specialized personnel, may be called for by any of the preceding four situations. Sometimes another function of a demonstration project is to serve as a hypothesis generator, as well as a "living example" of the application of research findings.

Getting change accepted:

All of these possible influences of a successful demonstration call for getting various categories of decision makers in established institutions (government agencies, cities, schools, industrial organizations, labor unions or operating service facilities) to become aware of and feel motivated to accept given innovations or changes.

The most common techniques which funders have employed for promoting continuity of a demonstration are the participative involvement of powerful persons on the local project board of directors; involvement through an investment of "matching funds" as a means of presumably assuring commitment; the dramatic appeal of demonstrated effectiveness for coping with some vexing problem, or the power of "proven" relevant knowledge. Each and all of these strategies have inherent limitations.

To promote institutional change in general, the more common strategies which have been developed, and which are discussed in more detail by Rein and Miller, are: (1) internal efforts or "infiltration" -- the setting up of a small demonstration within and by an established institution in the hope that direct involvement, exposure and the force of a good example will induce the host organization to adopt the innovation; (2) external efforts or "duplication" -- the setting up of a new institution or the use of an existing institution to perform the functions of the established institution in a clearly superior manner. This might provide, by the force of specific example, competition or "gadfly effect," and induce the established institution to adopt (or adapt) the innovation, or lead to development and maintenance of a separate institution with distinctive capability on problems with which the established institution cannot cope effectively; (3) outside pressure tactics, such as organized citizen pressure on local officials or institutions to adopt some innovation which these citizens want.

Each of the above strategies sometimes works, or works for a while, but tends to set up adverse counter forces or undesirable side effects unless done in a way that elicits cooperation from the established organization. Sometimes the main source of resistance to adoption of innovations is apathy or lack of understanding. The most effective strategies for overcoming such resistance may be those which lead to clarification of what is involved in the change, the potential benefits which are likely to accrue, coupled with full opportunity to voice questions, possible risks, or disadvantages. Motivation for unfreezing the status quo often involves a creation of dissatisfaction with the present. Movement to a new condition is achieved by inducement or reward. It is desirable to avoid an "adversary proceeding" orientation where this is not required.

Recognizing the gain to be derived from change:

One type of internal approach to promote convergence between self-interest and interest in others' innovations was demonstrated by HIRI in its VRA Project 1263 entitled, "Utilization of Applicable Research and Demonstration Results." In one of its experiments, skillful, catalytic outside consultation was offered to management in five different institutions. In each case the consultants got the management group to re-examine nondefensively their goals, problems, practices, opportunities and potentialities. In this process each group became more open to change. Goals and opportunities often were sharpened and redefined, with a concomitant search for revised ways to achieve new goals -- sometimes "borrowing" innovations from outside R & D projects which they perceived as linked to their own action plans, or sometimes devising "home-brewed" means.

If an institution can become motivated to want to achieve certain new objectives because most of the power figures involved believe that they will thus gain some kind of psychic or other reward, then they have "got with it," so to speak, and adversary-type strategies are not needed. The challenge in appealing to "self-interest" is to figure out what may constitute feasible stimulation and reward for different categories of key and middle-level persons in organizations who must desire the change. Such a desire may be truly for the change itself, or may be only a positive desire to avoid strong "clout" (power and influence) which otherwise may be directed at them.

It may be instructive at this point to note a finding concerning the efforts of the Office of Industrial Applications (OIA) at the University of Maryland which is studying the transfer of technical knowledge to industry from NASA. Philip Wright (15) reports that:

> "Of the 21,000 companies which NASA thought could use the inventions, 30 companies or 0.15% had adopted or seemed to have a good prognosis for adoption. Of the 3,100 companies from the preceding 21,000 which had agreed with NASA that the invention did sound relevant, 1% were in this adopted or likely to adopt group of 30, and of those 550 companies which on further investigation with NASA did not drop out of contact or say 'No,' only 5.5% ended in the final favorable group of 30 who had adopted or seemed to have a good prognosis for adoption."

The reported ratio of success from this NASA effort is hardly huge... although maybe each case of adoption was valuable and important. NASA selected an invention for active promotion, made an assumption about its economic feasibility for commercial adoption, approached a number of companies, and recorded the results of this strategy. From a psychological point of view, we would suggest that NASA (or OIA) might get better results by inviting some of their most likely potential users to become consultants on how to present the innovation (if indeed it is economically feasible and worthwhile) in ways that would be most attractive and compelling to other potential users, rather than by undertaking direct promotion. In effect, NASA (OIA) representatives went to potential users to tell them about something someone else had that appeared better than the products or processes currently used. In a sense, then, they were attacking the ego of the user. If, on the other hand, they were to approach the prospective user as a consultant, seeking his advice on applying the innovation to industry, and on ways of spreading knowledge about it to other prospective users, their batting average for adoption might be improved. NASA now is using a more personalized approach. As the NASA participant in this seminar has written, experience has shown that: "Few potential users bite -- no matter how startling the innovation -- if presented with solutions for which they have no immediate need. As a matter of fact, the very same solutions that are being utilized now in our program sat around for a long time unused. It was only when, instead of telling a potential user what good things we had for him, we asked, 'What can we get you to fill your needs' that action resulted."

5. Translating Findings Into Action

As already suggested, utilization of research and demonstration findings should be considered not only at the conclusion of a project, but also before the project is initiated, beginning with the proposal. And it should be considered all along the line. As R. L. Bright, Associate Commissioner for Research, Office of Education, has put it, "In any type of applied research...one of the opening questions should ask what obstacles must be overcome to put the results of the investigation (or demonstration) to good use."*

Early involvement of potential users:

The key question is: "Who are the audiences or consumers if the findings are significant, either positively or negatively?" When these audiences have been identified, it may be that a small number of representatives from these audiences can be brought together by the grantee staff shortly before the beginning of the project, in the role of discussants, critics and consultants. In other cases it may be feasible and appropriate to mail a summary of the project plan to selected potential users and invite their criticisms, suggestions and general counsel before the actual work gets underway. In some cases they also may be invited to serve as commentators on the progress reports. It is appropriate to offer pay for such consulting services.

These methods are intended to interest and involve a manageable number of potential users or consumers from the beginning of the project and all the way through it. The consultation may well help the project to be more effective, aside from the fact that willing involvement tends to breed interest in the outcomes. Potential users can help identify objections to certain possible side-effects, they can serve as a communication link through which others will learn about the project and they can reflect the practitioner's viewpoint in the planning.

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* "D. C Perspectives," Educational Researcher, 1966, 17, 2.

The case for independent evaluation:

Whether the task of public relations agent for applicable findings can best be assumed by the demonstration project staff, by the funding agency itself or by an independent evaluation follow-up study group is an open question. It may well be that for projects with a potentially significant social impact, outside evaluation and follow-up should be built into the project plan. Then, if the findings turn out to be worth spread or spillover, the outside evaluators might strategically be best situated to undertake the promotional role. In any case, credible and competent evaluation is necessary to determine whether the project findings deserve wider utilization, and it probably is up to the grantor agency to assure appropriate evaluation.

Needed research on project attributes that determine use of results:

In addition to feedback mechanisms for specific projects, there is need for intramural and contract research on: (1) project attributes that determine ultimate use of their results; (2) the determinants of utilization on the part of potential users; (3) techniques and patterns of effective dissemination to target groups; (4) techniques of determining critical needs for project information; (5) methods of tracing and assessing the ultimate impact of project results. We need to trace the utilization of superior R & D and E & D projects and find out the extent to which they have had impact, how, and why or why not. We also need to establish criteria of payoff in the form of utilization. Is it 25 percent of identifiable users -- or what?

Before advocating replication of someone else's whole E & D package, we need to determine what explains the seemingly good result, and thus what may need to be translated from a given E & D project into another's operations. Astute and timely evaluation studies, preferably by a third party, should help extract this kind of information.

Checklist of strategies:

Below is a partial list of strategies reported in the literature and reaffirmed by the seminar participants for translating applicable project findings into action -- or at least increasing their impact.

- The findings should be reported in a brief, easily readable, credible, stimulating and nontechnical version, in addition to the complete report. Indeed, it may be desirable to prepare several brief versions, tailored to the characteristics and needs of different audiences.
- The brief forms should be disseminated widely to various categories of users. For example, if the findings can be utilized by almost the entire staff of a state hospital for the mentally retarded, then copies of the report should go to all the various services involved, such as nursing service, nursing education, medicine, psychiatry, psychology, social service, etc., rather than just to the hospital superintendent.
- Person-to-person transmission of information generally is more effective than the written word. Conventions, conferences and traveling seminars coupled with site visits are persuasive techniques for reporting and demonstrating innovations. There are exceptions among the receivers of information, however, and the best strategy may also differ for different kinds of information.
- Utilization is facilitated by a human link or "change agent" between the innovator and potential users or between the professional system and the client system.
- Mobile teams, consisting of a person knowledgeable about R & D and E & D findings in certain subject areas and a management consultant, might serve effectively as resource persons, catalysts and "gadflies" to stimulate innovation at the regional and state levels.

- Based upon HIRI findings in Project 1263 and upon literature review, the pattern which generates the greatest impact involves a visit by potential users to the demonstration site to learn by seeing. This should be followed by a conference in which questions can be asked and comments made. The conference should allow individual participation in small groups and should permit each participant to report what his organization is doing, so that he is an appreciated giver as well as a receiver of new ideas. Written material distributed in conjunction with a conference which has stimulated interest in a project is likely to have greater impact than similar written material sent to persons who have not already become interested in that project.
- Replication, reiteration and reaffirmation through repeated demonstration in different places and settings may have more impact than a single demonstration, however credible the single demonstration may appear.

Effective dissemination of information about an innovation is a necessary but not a sufficient condition to optimize the chances of utilization or adoption. Demonstration, site visits, seminars, etc., can be helpful, but appeal to the potential users' self-interest is the key. Sometimes the "clout" of a board of directors or some other authority who shows interest in an idea may stimulate those below to look into that idea in order to please those authorities. Sometimes adopting an innovation may be seen as a way of enhancing professional reputation, of gaining prestige, of reducing costs, or appealing to the "instinct of workmanship" or "taste for efficiency." As already noted, whenever a potential user sees adoption as providing a reward of some kind, his motivation toward adoption is increased. Different strategies may be needed with different individuals to provide such convergence between self-interest and the open-minded consideration of a potentially valuable and applicable innovation.

6. Training of Washington E & D and R & D Program Staffs

The main professional function of the Washington staff program officer (as distinguished from administrative and fiscal functions) is to serve as effective liaison between the grantee project staff, particularly the project director, and Washington program officials, agency policymakers, etc. Ideally, the Washington program officer should also have sufficient time and capability to work with the project staff, and perhaps also with a third party, on appropriate ways of facilitating dissemination and utilization of applicable findings.

The basic requirements for fulfilling this role capably are:

A. An appropriate project load.

B. Enough knowledge about the field and subject-matter of projects under his jurisdiction to enable him to communicate intelligently and intelligibly with the project staff.

C. Personal professional competence in the social sciences or in business administration.

D. Ability to get things done on time as well as thoughtfully and competently -- a desired virtue for the project staff as well as the Washington program staff.

E. Understanding of research methodology and skills in interpretation of data and statistics; ability to analyze and judge both the logic and the relevance of project progress reports.

F. Skill in the art of meaningful dissemination of R & D and E & D findings, particularly in situations where the agency operating division does not have a dissemination and utilization staff of its own.

G. Ability to cope constructively with conflict as a demonstration succeeds in challenging existing practices and stirring up resistance.

If these attributes are lacking to any appreciable degree, the staff program officer's knowledge and insight can be developed through training. In-service training might include:

- Sources of information about subject-matter fields and methods of literature search, such as (a) OE's new Educational Research Information Center (ERIC) which acquires, abstracts, indexes, stores, retrieves and disseminates nationally the most significant educational research and research-oriented documents through a decentralized, nationwide network of information clearing houses; (b) NIMH-supported clearing houses on research related to mental health, such as the clearinghouse on crime and delinquency studies; (c) Science Information Exchange summaries of projects underway or completed on various subjects.

- Legislative authority and public laws which stand behind various program efforts; e.g., P.L. 89-333 re Federal assistance to rehabilitation facilities and workshops, Title VII-F of the Elementary and Secondary Education Act on research dissemination activities, or Title I of the Manpower Development and Training Act of 1962 on research, experimentation, and demonstration.

- Organizational structure of one's own and other relevant agencies operating in given subject-matter areas.

- Contract procedures and other information on the "life-cycle" of R & D and E & D projects.

- Internships in other agencies operating in the same field, or at least liaison assignments with such other agencies.

- Conferences or personal interviews with line operating and policy officials in own and related agencies.

Seminars or out-service training might be offered in:

- Applied psychology and the psychology of social change
- Market research and advertising techniques
- Communications and human relations skills
- System analysis techniques
- Strategies re the diffusion and utilization of innovations
- Skills required to serve as a change-agent link or a "social engineer" between researchers and operators, somewhat like the Extension Specialist or County Agent who links the agricultural research worker and the farmer. This role, however, could be filled by other persons than project officers.

7. Developing Better Interagency Coordination in Investigating Given Problem Areas

Many Federal agencies, to say nothing of private foundations and some state, county and city agencies, support studies and demonstrations in the same general subject areas. For example, NIMH, VRA, OEO, OMPER, USES, OE, Social Security Administration, the President's Committee on Juvenile Delinquency and the National Crime Commission all are concerned with the rehabilitation of individuals with educational, social, behavioral or physical disabilities. To achieve better interagency coordination in investigating given problem areas in carrying on demonstrations and disseminating and utilizing promising findings, the following types of practices should be broadened.

Establish interagency project review committee:

Interagency project review committees should be established to discuss policies and problems as well as projects already underway, or needed to help fill gaps in knowledge. It might be useful to bring together key officials from demonstration projects, from potential user facilities, and from all Washington agencies that are concerned, to focus on new developments and techniques in specific problem areas. From this interchange, "idea booklets" for coping with the problems in given areas could be developed. The booklets would discuss practical operating considerations...problems and values...and means of applying the innovations.

Provision should be made for exchange of information on proposals received. This would permit an agency to refer a good proposal that does not meet its objectives to a more receptive funding source. Some agencies occasionally do this now. There is also a need to know what proposals other Federal agencies are funding, to obtain the most promising use of limited funds.

Improvements are needed in both the division of labor and the integration of the system. Since so many agencies are involved in one way or another in the War on Poverty, in upgrading the quality of urban life, and in health, education, welfare and rehabilitation, there are many common and overlapping problems. It might be worthwhile for the various agencies concerned to agree upon target populations or upon which agency can best do what for whom, and to work out common as well as sometimes unique strategies for utilization of promising findings.

This would reduce wasteful proliferation and fragmentation of research, demonstrations, services and research utilization efforts.

Establish joint priorities and consider need for replication of demonstrations:

Key program planners and budget makers from related agencies should confer to establish priorities and collaborate where possible. Thoughtful attention needs to be given to the best allocation of investment in demonstrations. For example, should many isolated projects be funded in various areas or a few larger projects in selected areas where something meaningful can be bought with the limited total budget for staff, etc.? Cost factor studies should be undertaken with various types of R, D and E projects to develop guides for cost-effectiveness and cost-benefit planning and standards, and the information from these studies shared with all participating agencies.

"Multiplicity of discovery" sometimes may be a key strategy to achieve spread and local funding of demonstration project findings. Frequently, a single demonstration may not tell very much, or be altogether credible. In any case, it may not be sufficiently stimulating to make for change in established ways of operating by people who plan and conduct service programs. An accumulation of experiences in a number of projects, on the other hand, not only can yield more information, but can be more credible and impactful.

Related to "multiplicity of discovery" are OMPER's Operation Retrieval studies.* They represent an analytical device to stimulate broader application of repeatedly verified demonstration results. From several categories of completed projects, they tried to distill findings and suggestions from them that might be helpful for others working in -- or going into -- similar fields. While this kind of effort to bring to bear the findings or evidence from previous demonstrations is worthwhile, it too requires effective strategies for achieving meaningful acceptance by potential users of that knowledge.

Involve middle levels:

The middle level of agencies expected to utilize findings must be involved in E & D project ideas, from start to final application. It is not sufficient to involve only the top policy making levels.

Establish data retrieval system:

Some kind of clearinghouse and data retrieval system should be established, or perhaps an existing clearinghouse like ERIC could coordinate information from the various agencies. A simple and seemingly practical system would be for each granting agency to circulate to other interested agencies summaries of its own E, D and R findings, which grantees and contractors should submit along with final reports, as VRA requires. If an agency wishes more detailed information, the final report would be sent upon request. Later on, a more sophisticated data retrieval system could be developed.

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* See Appendix B

Conduct subject matter conferences:

These conferences could be among agencies, sponsors, project staffs, trainees and experts. Some institution should carry out the needed field coordination function of bridging the gap between researchers and operators who need research at the local level. Federal agencies might well perform that bridging function in their respective program fields.

III. FOLLOW-UP SUGGESTIONS

No matter how effective this report may have captured, organized and presented the many good suggestions contained in the literature and contributed by the more than 30 participants in this multi-agency seminar on research utilization, the optimum potential payoff will not be realized unless there is appropriate personalized follow-through. We submit that the main ingredients in achieving that kind of follow-through are:

1. Each participating agency (and perhaps some others such as the Department of Agriculture, Veterans Administration and Department of Defense) should be invited to "join the club" and asked to identify two of its own promising R & D or E & D projects. One should be a project not yet completed, and the other a completed project that has not achieved what the agency considers to be its merited impact. These two projects should then become working cases for the application of all worthwhile strategies to provide a "booster" for effective dissemination and utilization.

   These case exercises for application of what has evolved from this conference will need to be rigorously evaluated. The HIRI study for VRA, Project 1263, entitled "Utilization of Applicable Research and Demonstration Results" offers one model for carrying out such an evaluation of deliberate strategies. The System Development Corporation's study for OE entitled "Traveling Seminar and Conference for the Implementation of Educational Innovations" offers a second model. NASA's documentation in cases of actual utilization of aerospace technology offers a third model.

2. Sometime after this report has been distributed and digested, the seminar should be repeated. This time the main focus should be on the participants' individual problems and solutions, how they would evaluate the success of whatever they have been doing, what priority they would place on the things suggested through this seminar. It could also cover which agencies have tried or could try some of these suggestions in order to evaluate their efficiency and share the results with the group.

3. In addition to or instead of the above suggestions, there might be an annual conference on utilization to which the participants would bring (1) reports of success in utilization, (2) new utilization ideas and approaches, (3) findings from projects of general interest to this particular group. Scholars and others might be invited to present their ideas on experimentation, demonstration and utilization. A continuing planning committee might be appropriate. Sponsorship might rotate among agencies.

4. Adequate resources and policy support are obviously fundamental to effective utilization efforts. In some cases the program office staffs now are so thin that the kind of constructively close interaction between grantor and grantee advocated herein is impossible. Some agencies might be helped by a knowledgeable and sensitive management consultation study to review the manpower needs for administrative and fiscal tasks, professional liaison with grantees, and research utilization activities in relation to the number, size and complexity of the E & D and

R & D projects which the agency can fund, and to suggest practicable ways of overcoming manpower shortages. Unless there is proper balance between grants or contracts and agency capability of monitoring and interacting with grantees, there will be needless inefficiencies and waste.

IV. SELECTED LITERATURE REVIEW

A recent (June, 1966) summary of literature on the utilization of research is contained in the Human Interaction Research Institute's Final Report to the Vocational Rehabilitation Administration, Project 1263, "Utilization of Applicable Research and Demonstration Results:" (3, 6) thus, a summary will not be repeated herein.

The final report on Project 1263 states the following purposes:

1. To investigate the causes of the lag between the discovery of an innovation in vocational rehabilitation and its application elsewhere. Tacoma Goodwill Industries Project 308, for the rehabilitation of the young adult mentally retarded, was the main vehicle for this portion of the study.
2. To demonstrate experimentally how specific methods can be used to reduce that lag.
3. To demonstrate experimentally how to increase the development and application of innovation within an organization, in addition to interchange among organizations.

The utilization lessons from that study were:

- Formidable barriers impede the application of rehabilitation knowledge. Some are barriers of communication which keep knowledge from those persons or organizations which might put it to use. Some are attitudinal barriers which prevent persons from seeing that the knowledge which they have is actually applicable to their own work.
- Of the communication methods tried in this study -- an improved written report, a conference, and a visit from a staff member of an innovating agency -- the conference was by far the most persuasive and the most effective in stimulating innovation and adoption of innovation.

- Written reports can stimulate thinking, arouse interest, and make the user more receptive even if they do not directly lead to adoption of an innovation. They can be made more physically appealing by attention to good graphic design, format and layout. They can be made easier to digest by rigorous editing and cogent summaries. They can be made more persuasive if they include invited comments and evaluations from independent authorities in the field.

- Conferences are most effective if those who attend are there to teach as well as to learn, to speak as well as to listen. Contributions need to come from all if all are to go away able to use what they have heard from others. A site visit to a demonstration can be an excellent adjunct to a conference since it puts solid sensory flesh on the bones of verbal description.

- Psychological consultation to rehabilitation management can be an aid to innovation since it enables the agency to communicate within itself and to communicate with others outside. A strategy analogous to the county agent in agriculture can be tried in vocational rehabilitation with designated rehabilitation agents from government working with field facilities, perhaps in conjunction with a psychologically trained consultant. Varied kinds of consultation from behavioral scientists and practitioners as well as from clients can foster innovation by piercing the provinciality of the small agency and by encouraging independence in sectors of the large agency.

Three papers which have come to our attention since the Project 1263 report was written have been taken into account in the body of this report. They are: the Rein and Miller (9) paper, the NASA material (5, 14) on research utilization, the Halpert (4) paper on "Communications as a Basic Tool in Promoting Utilization of Research Findings." A fourth is Menzel's (7) paper entitled "Scientific Communication..." referred to in the following pages.

One experimental study in the literature, conducted under contract with the U.S. Office of Education, which warrants special recapitulation because of its relevance to this seminar is the System Development Corporation's report by M. Richland (10) entitled "Traveling Seminar and Conference for the Implementation of Educational Innovations."

The System Development Corporation attempted to evaluate the impact of traveling seminars and field site visits by potential users of educational innovations (e.g., school administrators, state education department officials, and representatives of teacher-training institutions). Four groups of such potential users, with approximately 30 educators in each group, covered four regions of the United States. These traveling seminars visited selected schools where significant innovations had been introduced and were in operation for at least one year. Immediately following the traveling seminar tour, the participants attended a conference on the dynamics of educational change and a discussion-analysis of what they had observed. Approximately one year later, SDC research representatives made on-site visits to the participants' own schools to study whether this dissemination technique had accelerated educational innovation compared with an equated group of school districts which did not participate in the tour-conference experience.

Reported results: (1) The traveling seminar and follow-up conference is a highly effective dissemination method for stimulating and facilitating educational innovation. (2) There are measurable attributes of school districts, such as crisis conditions which present problems needing new and dramatic solutions, that are related to the innovational behavior of these districts. (3) The attitude and leadership qualities of the local school superintendent toward innovation significantly influences the introduction of innovation in school districts.

Drawing upon a number of science communication research studies, Herbert Menzel (7) notes that several channels may act synergistically to bring about the effective transmission of a message. He also summarizes evidence that informal and unplanned communication plays a crucial role in the science information system, with certain individuals tending to play the role of "scientific troubador," as it has been called. Menzel writes:

> Often one channel of communication calls attention to a message to be found in another; sometimes a third channel is required to locate the precise document in which the message is contained; frequently one or more persons serve as relays between the source of a message and its ultimate consumer; and contacts at each intervening step may be initialed now by the receiver, now by the bringer of the message. The events which thus interplay are often distributed over a period of time. The possible relevance of a message to a man's work may not become apparent at the time it is first received, but only when that same message is repeated, sometimes more than once, or when it is put together with other information yet to be received, or when changes occur and needs come up in the course of the scientist's own future work.
>
> In fact, not only an individual scientist, but an entire scientific community may for years turn its back on some already published and significant piece of work, until it is 'brought home' by repetition, appearance in new media, rediscovery in new contexts, or other supplementary messages. Information must often be publicized repeatedly or through diverse channels before it will enter the stream of communications which will lead it to its ultimate user; and from the point of view of the consumer of information, it is frequently necessary to be exposed to the in information repeatedly before it will make an impact... Much of this crucial multiple exposure is brought about in informal ways, largely through contacts between individual scientists.

For those who like to see conceptual models of the change process, from generation of an idea to adoption, the diagrams by Guba-Clark, Clark (copied from Richland, 10, p. 39), and Davis (NIMH) may be useful, and are to be found in Appendix C. We (Glaser and Wrenn) have added our revision of a diagram sent to us following the conference by one of the participants (Helen Chiaruttini) to depict the NASA technology utilization effort.

V. BIBLIOGRAPHY

1. Bennis, W. "Theory and method in applying behavioral science to planned organizational change." Journal of Applied Behavioral Science, 1965, 1, 337-360.

2. Bhola, H. Innovation research and theory. Columbus, Ohio: School of Education, Ohio State University, 1965.

3. Glaser, E. M. and Marks, J. B. "Putting research to use." Rehabilitation Record, November-December, 1966, 6-10.

4. Halpert, H. P. "Communications as a basic tool in promoting utilization of research findings," Community Mental Health Journal, Vol. 2, No. 3, Fall, 1966.

5. Hartwig, Q. L. "A NASA program to apply space technology to medicine," Journal of the Assoc. for the Advancement of Medical Instrumentation, July, 1966, pp. 22-27.

6. Human Interaction Research Institute, "Utilization of applicable research and demonstration results," Final Report, VRA Project RD-1263, June, 1966.

7. Menzel, H. "Scientific Communication." American Psychologist, Vol. 21, No. 11, November, 1966.

8. Miles, M. (Editor), "Innovation in education," Bureau of Publications, TC, Columbia University, 1964.

9. Rein, M. and Miller, S. M. "Social action on the installment plan." Trans-action, January-February, 1966, 31-38.

10. Richland, M. Traveling seminar and conference for the implementation of educational innovations. Santa Monica, California: System Development Corporation, TM-2691, 1965.

11. Rogers, E. The diffusion of innovations. New York: Free Press of Glencoe, 1962.

12. SEC Newsletter. (10 Newsletters were published in connection with the "Conference on Strategies for Educational Change," held in Washington, D.C., November 8-10, 1965, and sponsored jointly by the U.S. Office of Education and The Ohio State University.)

13. Watson, G. and Glaser, E. "What we have learned about planning for change." Management Review, November, 1965, 34-46.

14. Whittington, G. A. (Editor), "R & D inputs from space technology," Research/Development, Sept. 1966, Vol. 17, No. 9, pp. 17-46.

15. Wright, P. "Technology Transfer and Utilization; Active Promotion or Passive Dissemination?" Research/Development, November, 1966.

APPENDIX A

POSITION PAPER OF THE BUREAU OF RESEARCH, OFFICE OF EDUCATION

The Bureau of Research of the Office of Education is one of the Washington agencies which recently has been doing some thinking about research utilization. In a position paper submitted November 9, 1966, they made the following observations which fit well with the consensus of this Department of Labor Conference on Strategies for the Utilization of applicable R, D and E Findings.

"Although acquisition of knowledge for its own sake can be defended as a socially desirable goal, any major federally-supported research program must show unmistakably that its research results are being applied for the public good...A continuous two-way flow of practical information into research and development centers and research information into operating educational agencies is essential for lasting improvement in education... Our initial efforts in an aggressive program to foster use of research information must include programs to make research findings easily accessible to educators, and, further, to package findings and communicate them in understandable form.

"...Full utilization of research knowledge is based on four mutually supporting processes: (1) dissemination activities, (2) prototype development and pilot operation, (3) demonstration, (4) implementation. This class of activities has as its aim the institutionalization or operational application of empirically derived and verified inventions. Because of the marked spread between the parsimonious conditions which characterize the best research and the compounding of variables which characterize operational activities in social institutions...it is necessary to carry out a stage in which innovation that has been tested or demonstrated in one setting can be made operational in other settings...This process is more frequently one of translating the innovation rather than transplanting it... Types of activities which characterize the implementation stage of research utilization include phased funding for try-out and adoption or adaptation, support of training programs for personnel involved in the institutionalized innovation, and provision of technical advice and assistance on demand of the innovating institution.

"...Efforts at translation and dissemination of research-based change in education...should be supported by appropriate research activities, including an educational equivalent of market research, as well as evaluative studies and studies of communication and autonomy patterns in educational institutions. It appears essential that initial efforts should attempt to exploit existing communication networks wherever possible, rather than superseding them with new channels of communication.

"...Research information must be tailored to the differing needs and capabilities of various audiences which comprise the educational community.

"To answer both the need for immediate results and long-range effectiveness, it is proposed that the research utilization-program of this Bureau involve three major program elements:

- Development of Dissemination Products and Activities
- Development of Pilot Operation of Programs
- Research on Strategies and Techniques of Research Utilization"

Or, as a recent OEO paper presented at the November 28-29, 1966, Seminar has expressed it, "The federal agency must shift the nature of its role in the utilization of R & D findings from that of a passive receptacle and storage bin to that of an aggressive and pivotal link in a chain reaction of utilization, with appropriate forms of application taking place at all levels in society."

APPENDIX B

CURRENT ACTIVITIES OF SOME FEDERAL AGENCIES IN DISSEMINATION AND UTILIZATION

I. OMPER UTILIZATION ACTIVITIES

Since OMPER is not an operating agency (its name is Office of Manpower Policy, Evaluation and Research), but rather a specialized staff arm of the Manpower Administration, it does not apply directly the findings of its Experimental and Demonstration (E & D) programs or of its Research. Both the Office of Special Manpower Programs (OSMP), which conducts E & D activities, and the Office of Manpower Research have utilization components. OSMP's Division of Program Utilization was responsible for this conference.

Following is a brief account of some of the activities of this Division.

1. Building Relationships with User Agencies

Even before the establishment of the Utilization Division, there was an Interagency Project Review Committee which includes representatives of agencies both inside and outside the Labor Department. This group meets regularly to discuss proposed E & D projects and to make recommendations to the Director of OMPER regarding them. This review makes it possible to refine proposals and to plan for cooperation in funding and operations.

There is also a joint utilization committee consisting of representatives of OSMP, Office of Manpower Research, United States Employment Service, the Bureau of Apprenticeship and Training and the Neighborhood Youth Corps (Bureau of Work Programs). The committee meets regularly to compare notes and to plan joint activity.

Some E & D projects are operated by the U.S.E.S. under contract with OMPER. The Director of U.S.E.S. has allotted staff for liaison with the utilization division and pushes actively for utilization of relevant E & D findings.

Other agencies, both in and out of the Labor Department, have participated in special OSMP staff meetings and in conferences on specific subject matters organized around E & D findings.

2. Operation Retrieval and Related Activities

Eight scholars are completing studies (not yet published) of various aspects of E & D programs which worked with disadvantaged youth. The studies are comprehensive efforts to retrieve the new knowledge and insights gained in such areas as outreach, basic education, counseling and testing, job training, job placement, research methods, relation to community organizations and use of non-professionals. The articles resulting from the retrieval studies will be used as the basis for conferences, how-to-do-it materials, and other dissemination activities. A comparable effort has also been undertaken to retrieve the findings of a number of E & D programs involving persons 45 and older. A report evaluating the findings of 1966 summer youth projects has been circulated to agencies which may be interested in utilizing them, along with brief project summaries and selected final reports of projects, and an offer to meet for further explorations.

3. Projects as Disseminators

Seminar or training capabilities have been built into a number of E & D projects and are in use to bring to outsiders the new approaches and techniques they have developed. Project staff are also used as consultants to other related activities. Visits to projects which have a special contribution are arranged for representatives of operating agencies in order to facilitate their adoption of new approaches.

4. Distribution of Printed Materials

Reports and articles on E & D projects which may helpfully guide others are distributed to interested agencies and individuals.

5. Arrangement for Spin-off

One of the possible desired outcomes of an E & D project, after it has demonstrated feasibility and usefulness of an innovative approach, is assumption by an ongoing agency as a regular activity, perhaps on a broader scale. Efforts toward such an outcome are often required by the E & D contract and OSMP seeks to assist in making the transfer. E & D projects have been spun-off in this way to the Employment Service, to the Bureau of Apprenticeship and Training, to OEO agencies, and to various local agencies. The utilization division has a special responsibility to work on spin-off.

6. Suggestions for Legislation

E & D experience is drawn upon for development of legislative recommendations. Various amendments to the Manpower Development and Training Act are based on findings of demonstration activities.

7. Projects as Models

Successful E & D projects are used as models for broad application in manpower activities, sometimes with the assistance of E & D funding, and other times as innovations in ongoing programs. To the extent possible the original models are used as sources of inspiration, consultation, and technical assistance to those programs which are modeled on them.

8. How-to-do-it Materials

Out of activities such as "Operation Retrieval" and subject matter conferences, it is planned to produce special materials, beyond the project reports themselves, as guides for practitioners and planners.

9. Utilization Staff Liaison

Each member of the utilization staff has a responsibility to keep in touch with specific members of the staff who develop and monitor the E & D projects. Through this "buddy system" it is hoped that utilization staff members will gain a greater knowledge of what is happening in the various projects and that they can help the project officers bring out the utilization potential in their projects.

The utilization division is responsible for regular bi-weekly meetings of the entire OSMP staff to explore common problems and new ideas.

II. VOCATIONAL REHABILITATION ADMINISTRATION

The following list of current and planned activities of VRA in dissemination and utilization appeared as the final portion of a paper given by Dr. William M. Usdane at a Conference on Communication, Dissemination and Utilization of Rehabilitation Research Information at the Carillon Hotel, Miami Beach, Florida, December 7-10, 1966. Dr. Usdane is Chief, Division of Research and Demonstrations, Vocational Rehabilitation Administration. The paper itself is to be published soon in Rehabilitation Literature. It should be emphasized that certain of the items listed below under "Tentative Future Plans..." are not yet underway, but are instead simply an outcome of the author's attempt to think through what he would like to do, and what he hopes to accomplish in the future.

Some Current Activities of VRA in Dissemination and Utilization

1. Science Information Exchange

   Every project submits a summary of the proposed work in 200 words or less. The Science Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research and are forwarded to investigators who request such information. A problem exists in these summaries, since the work in subsequent progress may change its focus with the approval of the VRA. There is concern over the dissemination of a summary written when the proposal is submitted. As one informed writer has put it, "I am worried that somehow a tremendous super-structure of exchanges of pieces of paper is being built upon the shoulders of the scientist while he is left out of the whole enterprise."

2. Research and Demonstration Projects, an Annotated Listing

   This publication, currently listing those approved applications from the inception of the program in March 1955 through September 1965, is in revision, and will be published shortly after the first of the year, including those projects approved up to December 1966. Projects are grouped into 21 sections, a Topical Index is included, and the number of the project, fiscal year activated, anticipated duration, name and address of grantee, project director, and a brief description of the project purpose.

3. Reports Resulting from Research and Demonstration Projects, a Bibliography

   This publication, dated 1962, has accumulated a large number of additional entries. Publication of a revised edition has been held up due to the information explosion from Final Reports between 1962 and 1966.

4. Final Reports

The final narrative report of 50 copies and any other required material are to be submitted within three months after termination of the grant. These particular documents are distributed by the grantees to broader areas of professional and lay groups. The distribution of the 50 copies is held to Central Office personnel and any other interested individuals as long as the supply is available. Basic Central Office policy is to refer all requests for Final Reports to the Project Director.

5. Distribution List for Final Reports

Any Final Reports of large quantity are distributed according to a list of over 500 names of individuals and organizations that have accumulated from letters of request, State Directors, Regional Offices, libraries and other organizations and facilities. Government Printing Office publications are routinely distributed to 130 depository libraries located throughout the nation. Between 1962 and 1964, it wasn't possible to make a supplementary grant or a new grant for publication purposes. During these years, the Research and Demonstrations Division worked on editing and revision of approximately six Final Reports (e.g., Halfway Houses, Professional Examination Service.)

6. Presentation of Technical Papers by Project Personnel at Symposia and Other Meetings

This method of communication is difficult to assess accurately, but it does exist. Copies of these presentations are requested but are not always obtained.

7. Information Service Series, Rehabilitation Service Series, Director's Letters, Regional Representatives Memoranda

The Vocational Rehabilitation Administration uses a system of releases which are communication channels with one or several select audiences within the State-Federal vocational program. The research program has used these several media extensively, providing a capsuled description of the aims, goals, and findings of the Final Reports. Any division or area other than the Research and Demonstrations Division may utilize one of these series to point up especially significant findings, e.g., in the area of blindness, deafness, mental illness, etc. During the past year, information concerning a number of projects that had sufficient copies available for redistribution was announced to training programs as well as to other sources.

8. Rehabilitation Record

This publication of the VRA has in every issue highlighted individual research and demonstration projects as well as included a page or two of the newly approved projects.

9. Department's Annual Report-VRA Bulletin Board

These two Departmental releases are used to report accomplishments, but have, obviously, a limited reading public. Special press releases are also made available concerning (a) new approvals, and (b) Final Reports when suggested by VRA staff members.

10. Research Conferences

For the past several years, the VRA has supported and assisted in the planning of a number of special conferences. These are designed to stimulate and communicate research information among professional persons with common or similar interests in specific problems associated with disability. Funds have been awarded to sponsors for this purpose in the subjects of mental illness, mental retardation, prevocational evaluation, psychological aspects of disability sociology and rehabilitation, heart disease, cancer, stroke, the relationship between workmen's compensation and rehabilitation, deafness, mobility training of the blind, research procedures, anthropology and rehabilitation. Special care is taken at each of these meetings to insure the participation of researchers, people from the serving professions, and program operations.

11. Regional Research Conferences

From time to time, Regional Offices have sponsored research conferences for the dissemination and utilization of research results among the States in the region.

12. State In-Service Training Conferences

As part of training programs for State rehabilitation personnel, project directors have often been invited to present the results of their research findings. Occasionally Research and Demonstration Division staff are also asked to show how results can be utilized.

13. Selected Demonstrations

Selected Demonstration projects are projects conforming to prototypes derived from successful demonstrations previously supported by the VRA. They provide a means of putting into operation improved methods in many different parts of the country. These were begun in 1957 and continued until the end of 1965 when this approach was transferred to the State vocational rehabilitation program through innovation, expansion, or improvement grants.

14. Regional Research Institutes

These centers for programmatic research in core rehabilitation areas are located in the nine HEW regions. Each has as its first mandate research in the designated area. They are at Northeastern University (Boston), University of Wisconsin (Madison), University of Utah (Salt Lake City), University of Florida (Gainesville), Cornell University (Ithaca), University of Washington (Seattle), University of Maryland (College Park), University of Missouri (Columbia). The second goal of the Regional Research Institutes is to assist States in the region with research interests which appear to tie in closely with the research core of the University. Each Regional Research Institute is publishing a monograph series.

15. Operations Research

Available to State Divisions of Vocational Rehabilitation are guidelines for applications concerned with the establishment of a Staff Member to conduct operational research related to State DVR.

16. Letters (or Memoranda) to Project Directors and Rehabilitation Training Memoranda

These are direct lines of communication with those responsible for conducting rehabilitation research or training projects.

17. Conferences for Project Directors' Exchange of Information

From time to time, conferences are called, either in Washington or in the field, for Project Directors who are engaged in similar goals. The major purpose can be to write guidelines for the dissemination of procedures or techniques to be utilized by rehabilitation personnel, interchange of information in general, plans for dissemination and utilization of their findings among themselves and for the consumers, etc.

18. Example of Specific Projects Related to Research Utilization

"The Utilization of Applicable Research and Demonstration Results" by Human Interaction Research Institute of Los Angeles; Report IX, "The Application of Research Results" in the Minnesota Studies in Vocational Rehabilitation; "Study of Patterns of Rehabilitation Services Available Under the State-Federal Vocational Rehabilitation Program" by the University of Kansas; Excerpta Medica Foundation publication to abstract world-wide publications in rehabilitation; photoduplication service to persons engaged in vocational rehabilitation research to the National Society for Crippled Children and Adults library service in Chicago; Airlie House film dissemination to 18 cities during "prime time" of "The Wasted Ones".

19. Research Seminars

Four Research Seminars in Central Office each year are presented by selected project directors. While these seminars reach only a small sector of the VRA, the purpose is to keep staff members aware of interesting and significant research findings. These seminars began in 1964 and are currently in their fourth year.

20. New Legislation Utilizing Research Results (P.L. 89-333)

The establishment of a National Commission on Architectural Barriers to Rehabilitation of the Handicapped resulted in part from the activities of research that initially explored the problems. As a result of several research and demonstration projects to States to study rehabilitation services for the future, the comprehensive two year statewide planning grant became part of the new amendments. After several research and demonstration projects in the areas of severe disability indicated the need for a longer period of service before long range rehabilitation plans could be made, the new amendments authorized the State rehabilitation agency to render services up to a maximum of six months, or 18 months in the case of the more severely retarded.

Tentative Future Plans of VRA

Research Utilization Task Force

A Task Force has recently been appointed within the VRA to review current methods of dissemination and utilization of research and its results. This group will add to its membership other members as appropriate during its deliberations for suggestions and recommendations for the utilization as well as the dissemination of research and demonstration results.

Research Utilization Unit

The Editorial Unit within the Research and Demonstrations Division has tentatively been reorganized to concern itself with the utilization of research results rather than with the editing and distribution of Final Reports. It is to be concerned with the consideration of innovations in bringing research results to the consumers in the practicing fields of the vocational rehabilitation process. The major distribution aspects of Final Reports will be transferred to another section within the VRA.

Outlines Abolished

Outlines as requested in the current Guidelines to Final Reports will no longer be required by the VRA.

Research and/or Technical Briefs

Consideration will be given to the writing of Research or Technical Briefs according to the suggestions and recommendations of the Task Force on Research Utilization.

Revised Final Report Guidelines

A revised Guidelines for Final Reports has been written in draft at this time. Currently, project directors are being told not to submit outlines, but to concentrate immediately on the Final Report itself.

Highlights of Research Findings

On the inside cover of the Final Report, the highlights of the research findings are now requested to be listed, emphasizing implications for rehabilitation workers.

Project Research Conferences

During the final year of a three year project, project directors will be encouraged to call a conference to disseminate some of the findings (if available) to the consumers. This approach will also sharpen the writing of the Final Report which could then include some of the responses obtained from the reactions of practitioners.

Data Bank and Retrieval System

The new provisions of P.L. 89-333 permit the establishment and operation of a national information service in rehabilitation, using modern automated data equipment, to collect, store, analyze, retrieve and disseminate information. Included will be the results and significant highlights of the research and demonstration project findings.

Distribution of Currently Approved Projects

In between publications of the Annotated Listing, the VRA will make available to the Regional and State offices the listing of recently approved research and demonstration projects.

State-of-the-Art Monographs

The VRA will initiate publications involving a look at the state-of-the-art in selected disability areas. Currently there is being completed one on deafness; one will soon be ready for publication on vocational predictive studies on mental retardation.

Special Projects on Research Utilization

With encouragement from the Regional Representatives and State Directors, and with approval through the Study Section and the National Advisory Council on Vocational Rehabilitation procedure, special projects to assist in the dissemination and utilization of research findings will be encouraged. The focus should be on the utilization of information from research projects for the practitioner.

Mobile Rehabilitation Research Utilization Units

Projects will be encouraged which could carry research results to a variety of settings in various rehabilitation facilities throughout the State or Region. Emphasized in projects of this type will be the presentation and direction of the findings by practitioners within the field of rehabilitation.

Dissemination and Utilization Aspects of Research Projects

Project Directors will be encouraged to add those items to their grants which clearly outline the utilization of the results during the life of the project, in addition to calling a conference for practitioners. Audiovisual techniques, programming of results, etc. will be encouraged.

Information Bulletins

Project Directors will be requested to submit one page Information Bulletins along with the Progress Reports to highlight the nature of the progress and to enable a current look at the research by the reviewers.

III. BUREAU OF RESEARCH, OFFICE OF EDUCATION

1. ERIC

The Educational Research Information Center (ERIC) consists of a network of 13 decentralized clearinghouses, each of which specializes in collecting, abstracting, indexing, interpreting, and disseminating research and research related information in one topical area in education. These clearinghouses are coordinated by Central ERIC, an in-house operation in the Office of Education, which has taken the leadership in developing the ERIC Thesaurus of Descriptors, the primary tool for coding and indexing documents included in the ERIC bank of documents. Central ERIC also monitors service contracts intended to facilitate use of ERIC documents. One such contract is for machine-processing and other services to the program; another is for the ERIC Document Reproduction Service, which makes documents available to interested users on microfiche and in hardcopy. Reports are available on fiche at 9¢ per fiche (comprising 60-70 pages of copy) or in hardcopy at 4¢ per page.

2. Research in Education

This is a monthly publication issued by the Government Printing Office, consisting of abstracts and an index to current projects and final reports available through ERIC. During the current fiscal year, Research in Education will be supplemented by a number of historical volumes which will abstract and index some 1,500 final reports on Office of Education-supported research completed prior to 1965. Research in Education is available from the Superintendent of Documents for $1 per monthly issue or $11 for an annual subscription.

3. Research Interpretation

To supplement the interpretive functions of the ERIC clearinghouses, the Bureau of Research is contracting for development of a number of interpretive reports on collections of research concerned with critical educational problems. The intended audiences for these interpretations are primarily those individuals concerned with making or implementing educational decisions: board members, administrators, supervisory personnel, and teachers. Primary emphasis during the current year is being given to those areas of research which have most relevance to such major legislative programs as The Elementary and Secondary Education Act of 1965, the Higher Education Act of 1965, and the Vocational Education Act of 1963. Contracts are awarded for the review of collected research reports in the context of operating problems of schools and institutions of higher education (e.g., cost effective factors, administrative and supervisory concerns, etc.). Following the completion of these interpretive analyses, the results will be reported in formats and language which are understandable and usable by the intended audiences, rather than in the form of classic research reports or monographs.

4. Conferences and Symposia

Each Division of the Bureau of Research receives and supports proposals for conferences and symposia intended to interpret research results to specified audiences, or to formulate research in needed areas. Among such types of conferences in recent years have been some dealing with vocational education curricula and instructional methods, higher education innovation, and educational media.

5. Educational R & D Centers

The Bureau of Research provides long-term programmatic support for centers of study for research and development in critical areas in higher education. Examples include the Center for the Study of Educational Administration at the University of Oregon, and the Center for the Study of Higher Education at the University of California. Each center is selected on the basis of the significance of the problem on which it proposes to focus its work and on the demonstrated competence of the staff of the proposed center. Each center carries on a continuum of activities, ranging from basic research through applied research to developmental activities and dissemination of information. In practice, most centers place heaviest emphasis on the basic research end of the continuum, with appropriate dissemination activities.

6. Regional Educational Laboratories

Similar programmatic support is provided for a group of 20 regional educational laboratories, each of which is governed by a board of educators, businessmen, and other citizens. Although the laboratories have both the technical competence and authorization to conduct a range of activities comparable to those of the R & D Centers, their programs are based upon needs as defined within each region, so that the programs of the laboratories tend to cluster around development, demonstration, and diffusion activities which are intended to have immediate and lasting impact on educational practices in the schools of the region.

7. Development and Demonstration Activities

Proposals are accepted for a variety of activities relating to the development of curricula, instructional materials, and the demonstration of innovative practices in operational educational settings. To date, the most significant (from the standpoint of obligation of funds, as well as impact) activities in the category have been projects relating to the teaching of English, the social studies, and vocational subjects. Substantial support has also been given to projects in the physical sciences. Thus far, most projects (with the exception of those in vocational education) have been at the elementary and secondary school level.

8. Support for Innovative Service Agencies

A number of regional centers for the development and distribution of instructional materials for handicapped students have been established under the provisions of the Handicapped Children and Youth Act. Funds from Title VII of the National Defense Education Act led to establishment of two regional libraries for distribution of instructional television program materials. One of these, the Great Plains Instructional Television Library, Lincoln, Nebraska, is now fully self-supporting. Still under federal support is the National Center for School and College Television, operated by the Indiana University Foundation.

9. Research on Diffusion of Innovation in Education

A program of research is being initiated to identify more clearly the conditions and constraints under which research-based innovations are institutionalized in education. Among the emphases in these studies are the patterns of communication flow and autonomy in educational institutions, the characteristics and roles of educational change agents, the research information needs of educational practitioners, and the relative effectiveness of differing diffusion techniques in educational settings.

10. EPIE

Funds have been awarded to the Institute for Educational Development to conduct a planning study for a service known as Educational Products Information Exchange (EPIE), which is designed to provide a means for educators to exchange information relating to the selection and purchase of educational materials and equipment and to provide a forum for communication between educators and manufacturers of educational products.

APPENDIX C: MODELS OF THE CHANGE PROCESS IN RELATION TO IMPLEMENTATION

A CLASSIFICATION SCHEMA OF PROCESSES RELATED TO AND NECESSARY FOR CHANGE IN EDUCATION*

	RESEARCH	DEVELOPMENT		DIFFUSION		ADOPTION		
		INVENTION	DESIGN	DISSEMINATION	DEMONSTRATION	TRIAL	INSTALLATION	INSTITUTIONALIZATION
OBJECTIVE	To advance knowledge	To formulate a new solution to an operating problem or to a class of operating problems, i.e., to innovate	To order and to systematize the components of the invented solution; to construct an innovation package for institutional use, i.e., to engineer	To create widespread awareness of the invention among practitioners, i.e., to inform	To afford an opportunity to examine and assess operating qualities of the invention, i.e., to build conviction	To build familiarity with the invention and provide a basis for assessing the quality, value, fit, and utility of the invention in a particular institution, i.e., to test	To fit the characteristics of the invention to the characteristics of the adopting institution, i.e., to operationalize	To assimilate the invention as an integral and accepted component of the system, i.e., to establish
CRITERIA	Validity (internal and external)	Face Validity (appropriateness) --- Estimated Viability --- Impact (relative contribution)	Institutional Feasibility --- Generalizability --- Performance	Intelligibility --- Fidelity --- Pervasiveness --- Impact (extent to which it affects key targets)	Credibility --- Convenience --- Evidential Assessment	Adaptability --- Feasibility --- Action	Effectiveness --- Efficiency ---	Continuity --- Valuation --- Support
RELATION TO CHANGE	Provides basis for invention	Produces the invention	Engineers and packages the invention	Informs about the invention	Builds conviction about the invention	Tries out the invention in the context of a particular situation	Operationalizes the invention for use in a specific institution	Establishes the invention as a part of an ongoing program; converts it to a "non-innovation"

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* The Guba-Clark schema described in this Newsletter is from their paper, "An Examination of Potential Change Roles in Education," which was among those delivered at the National Education Association—Committee for Study of Instruction Symposium—Innovation in Planning School Curricula at Airlielhouse, Va., Oct. 2-4, 1965.

D.L. Clark
(from Richland, 9)

CHANGE IN A SOCIAL PROCESS FIELD

	Research	Development	Dissemination	Demonstration	Implementation
Objective	To advance knowledge	To apply knowledge	To distribute knowledge	To build conviction	To facilitate action
Criteria	Validity of the knowledge produced	1) Feasibility 2) Performance	1) Intelligibility 2) Fidelity 3) Comprehensiveness 4) Pervasiveness	Credibility	1) Effectiveness 2) Efficiency
Relation to Change	Provides basis for innovation	Produces innovation	Informs about innovation	Promotes innovation	Incorporates innovation

A CONCEPT OF PHASES IN THE CAREERS OF RESEARCH FINDINGS

Upper columns (arrows across) represent sequential phases of careers of findings.
Lower columns (arrows up) represent some activities which may influence the career course and impact.

GENERATION →	COMMUNICATION →	PENETRATION →	OPERATION →	DESTINATION
NCMHI Journals Agency Reports Title V Research Grants Special Projects Program Analysis HIP	Discussion Lecture Conference Publication Exhibition - Demonstration Consultation	Awareness Acceptance Integration into repertory Mating with other findings	Alignment with need conditions Initiation of action Modification of behavior, material or systems IMPACT ON PATIENT	Perpetuation Modification Expiration Spillover Spread
↗	↗	↗	↗	↗
Determining hospital program needs Sensitizing to relevant ideas Identifying sources Scanning specific sources-persons, publications, sites Early sensing of trends Producing and refining findings thru further projects Retrieving and distilling findings	Identifying specific needs Selecting targets Preparing and packaging findings Selecting method of conveyance Channeling, routing findings Managing the flow system	Reinforcing awareness of need Providing receiver with incentive to know Meeting competition for the receiver's attention & time Using project grants as tools Arranging for exchange with colleagues Consulting, site visiting	Dealing with resistance to change Reinforcing change motive Assisting in tailoring findings to fit conditions Meeting needs re dynamics of change group Reckoning with administrative-legislative support Using grant mechanism as tool	Evaluating efficacy of findings Measuring cost/gain ratio Meeting of extraneous but relevant needs of pts. and personnel Re-examining need for the findings Maintaining administrative & staff interest Modifying or replacing with newer findings

It is considered that findings at any station may lie in wait "for their time to come," and that their forms may grow unrecognizable through fitting and mating during their careers.

COMMENTS (Chiaruttini)

I think the main difference between the NASA technology utilization effort and the one suggested by the seminar is that NASA transfers are what we might call vertical -- e.g., from spacecraft technology to medical instrumentation -- whereas those resulting from demonstration projects will be lateral -- from one mental hospital to another. It would seem, then, that there should be a continuum rather than two discreet sequences describing application of results. I would like to suggest that the "problems in search of solutions" is always the most efficient method of approaching utilization of past as well as funding of new research.

A sequence such as this comes to mind (as modified by Glaser and Wrenn):

SOME WANT OR UNSOLVED PROBLEM
↓
BANK OF IDENTIFIED INNOVATIONS & INVENTIONS

1. (IF SOMETHING FOUND IN BANK)
↓
MODIFICATION & REFINEMENT
↓
FURTHER ASSESSMENT
↓
UTILIZATION
↓
DOCUMENTATION

2. (IF NOTHING FOUND IN BANK)

↓

CONCEPTION & DEVELOPMENT OF IDEA
TO SATISFY WANT OR PROBLEM

↓

IF CONCEPTION ARRIVED AT

↓

CRITICAL REVIEW & TRYOUT & EVALUATION

↓

IF EVALUATION POSITIVE

↓

DOCUMENTATION OF RESULTS & STRATEGIES
FOR DISSEMINATION TO POTENTIAL USERS

↓

MODIFICATION AND REFINEMENT

↓

FURTHER ASSESSMENT

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